

## **Remarks**

Applicants respectfully request reconsideration of the present U.S. Patent application as amended herein. Claims 23-29 have been canceled. Claims 30-44 have been added. Thus, claims 30-44 are pending.

### DOUBLE PATENTING

Claim 23 was provisionally rejected on the ground of non-statutory obviousness-type double patenting. Claim 23 has been canceled. Therefore, the rejection of claim 23 is moot.

### CLAIM REJECTION – 35 U.S.C. § 101

Claims 23-29 were rejected as being directed to non-statutory subject matter. Claims 23-29 have been canceled. Therefore, the rejection of claims 23-29 is moot.

### CLAIM REJECTION – 35 U.S.C. § 112, SECOND PARAGRAPH

Claim 26 was rejected as being indefinite for failing to particularly point out and distinctly claim the subject matter of the invention. Claim 26 has been canceled. Therefore, the rejection of claim 26 is moot.

### PREVIOUSLY-CITED REFERENCES

Claims were previously rejected as being anticipated by “A Space-Frequency Transmitter Diversity Technique for OFDM Systems,” Globecomm 2000, IEEE Global Telecommunications Conference by Lee, et al. (*Lee*).

Claim 30 recites:

receiving content for transmission from a plurality of transmit antennae, wherein the received content is a vector of input symbols ( $s$ ) of size  $N_c \times 1$ , wherein  $N_c$  is the number of subcarriers of the multicarrier wireless communication channel; and

generating a rate-one, space-frequency code matrix from the received content for transmission via the plurality of transmit antennae by dividing the vector of input symbols into a number  $G$  of groups to generate subgroups and multiplying at least a subset of the subgroups by a constellation rotation precoder to produce a number  $G$  of pre-coded vectors ( $v_g$ ), wherein successive symbols from the same group transmitted from the same antenna are at a frequency distance that is multiples of  $NG$  subcarrier spacings.

Thus, Applicants claim use of subgroups for transmission. Independent claims 35 and 40 similarly recite use of subgroups for transmission.

*Lee* does not disclose use of subgroups for transmission. Therefore, *Lee* cannot anticipate the invention as claimed in claims 30, 35 and 40. Because dependent claims include the limitations of the claims from which they depend, Applicants submit that the dependent claims are not anticipated by *Lee* for at least the reasons set forth above.

#### CLAIM REJECTIONS – 35 U.S.C. § 103(a)

Claims were previously rejected as being unpatentable over *Lee* in view of *Wei* and further in view of U.S. Patent Publication No. 2005/0078761 of Hottinen, et al. (*Hottinen*). *Hottinen* is cited to teach creating diagonal transmission code matrices from transmit diversity code matrices. However, none of the cited references appear to teach successive symbols from the same group transmitted from the same antenna are at a frequency distance that is multiples of  $NG$  subcarrier spacings as recited in the claims. Therefore, no combination of *Lee*, *Wei* and *Hottinen* can teach or suggest the invention as claimed.

CONCLUSION

For at least the foregoing reasons, Applicants submit that the rejections have been overcome. Therefore, claims 30-44 are in condition for allowance and such action is earnestly solicited. The Examiner is respectfully requested to contact the undersigned by telephone if such contact would further the examination of the present application. Please charge any shortages and credit any overcharges to our Deposit Account number 02-2666.

Respectfully submitted,  
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